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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,387	03/26/2004	Arun Kumar Singh	7560	8627
55740 7590 10/18/2007 GAUTHIER & CONNORS, LLP 225 FRANKLIN STREET SUITE 2300 BOSTON, MA 02110			EXAMINER LANG, AMY T	
			ART UNIT 3731	PAPER NUMBER
			MAIL DATE 10/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/810,387

Applicant(s)

SINGH ET AL.

Examiner

Amy T. Lang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

All previous rejections and objections in office action mailed 3/28/2007 not included in this action have been withdrawn in light of applicant's remarks filed 7/30/2007.

Response to Arguments

Applicant's arguments filed 7/30/2007 have been fully considered but they are not persuasive.

1. Specifically, applicant argues (A) that one does not need to show every combination with every particular amount of every component, as this would be overburdensome to the Applicants.

With respect to argument (A), independent claims 1 and 34 and claim 13 broadly claim that any antirust, extreme pressure additive, etc. will function in the composition. However, the instant specification only supports some specific additives. Therefore, the instant specification does not provide guidance for all possible additives, only the few embodiments disclosed.

For example, the instant claims only state that triazoles and sulfonates are utilized as an antirust component. However, other antirust components are known in the art such as zinc dithiophosphate, phenolates, fatty acids, and phosphoric zinc (see US 2006/0079411 and US 6,548,460). The instant claims only state a sulfide and a phosphosulfurized compound are utilized as an extreme pressure agent. However, other extreme pressure agents are known in the art including ethylene adducts of

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alcohol (see US 4,144,178). Therefore, the specific instantly claimed additives are not commensurate in scope with the total amount of additives available as an antirust component, an extreme pressure agent, etc. Since other additives are available than instantly claimed that could function in the instant claims 1, 34, and 13 which broadly claim that any antirust, extreme pressure additive, etc will function in the composition, claims 1, 34, 13 and the instant specification do not support the other additives that could function in the composition as cited by US 2006/0079411, US 6,548,460, and US 4,144,178. Therefore, the instant specification does not provide guidance and enablement for all possible additives as instantly claimed in claims 1, 34, and 13.

2. Specifically, applicant argues (B) that the present invention is directed to a metalworking fluid whereas the cited documents refer to lubricants only.

With respect to argument (B), Anataneni discloses a lubricating composition for a metal surface, specifically an internal combustion engine, which clearly overlaps the instantly claimed metalworking fluid. Boffa also discloses a lubricant for an internal combustion engine. Tanaka discloses specific advantageous additives for a metalworking fluid. Camenzind also discloses a metalworking fluid comprised of additives to improve performance properties. Van Dam also discloses a lubricating composition for an internal combustion engine. Matsushita discloses a metalworking lubricant. Zoch discloses a fuel composition utilized in internal combustion engines, which overlaps a metalworking fluid. Otaki discloses a lubricant for use in high temperature applications. An internal combustion engine produces a high temperature

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environment. Therefore, the cited documents do not refer to lubricants only, but specifically disclose metalworking fluids.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 and 34 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a lubricity booster as a karanja oil, neem oil, etc, an antioxidant as an alkyl phenol, aromatic amine, etc, a fungicide as an o-cresol, phenol, etc, an extreme pressure agent as dibenzyl disulfide, sulfurized vegetable oil, etc, an antirust agent as 1h-benzotriazole, ditertiary butylated 1h-benzotriazole, etc, a co-surfactant as isopropanol, n-butanol, etc, a coupling agent as lingo sulfonate, petroleum sulfonate, etc, or an alkali component as sodium carbonate, sodium hydrogen, etc, does not reasonably provide enablement for an emulsifier, lubricity booster, antioxidant, fungicide, extreme pressure agent, antirust agent, co-surfactant, coupling agent, and alkali component as is broadly claimed. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Case law holds that applicant's specification must be commensurately enabling [regarding the scope of the claims]" *Ex Parte Kung*, 17USPQ2d 1545, 1547 (BD. Pat. App. Inter. 1990). Otherwise **undue experimentation** would be involved in determining

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how to practice and use applicant's invention. The test for undue experimentation as to whether or not all compounds within the scope of the claims 1 and 34 can be used as claimed and whether claims 1 and 34 meet the test is stated in *Ex parte Forman*, 230 USPQ 546, 547 (Bd. App. Inter. 1986) and *In re Wands*, 8 USPQ2d 1400, 1404 (Fed.Cir. 1988). Upon relying this test to claims 1 and 34, it is believed that undue experimentation **would** be required because:

(a) *The quantity of experimentation necessary is great* since claims 1 and 34 read on any type of lubricity booster, antioxidant, fungicide, extreme pressure agent, antirust agent, co-surfactant, coupling agent, and alkali metal component such as olefin sulfide (extreme pressure agent), dithiophosphoric acid (antioxidant), diethanolamine (antirust agent), etc.

(b) There is **no direction or guidance presented** for making a metal working fluid comprising any type of lubricity booster, antioxidant, fungicide, extreme pressure agent, antirust agent, co-surfactant, coupling agent, and alkali metal component.

(c) There is an **absence of working examples** concerning making claims 1 and 34 comprising any type of, lubricity booster, antioxidant, fungicide, extreme pressure agent, antirust agent, co-surfactant, coupling agent, and alkali metal component.

In light of the above factor, it is seen that undue experimentation would be necessary to make and use the invention of claims 1 and 34.

5. Claims 13-33 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling the specific combinations of the emulsifier, lubricity

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booster, antioxidant, fungicide, extreme pressure agent, antirust agent, co-surfactant, coupling agent, and alkali component as set forth in Examples 1-4, does not reasonably provide enablement for the various claimed combinations of the emulsifier as a heavy alkylate sodium sulfonate; sodium carboxylate, etc, the lubricity booster as a karanja oil, neem oil, etc, the antioxidant as an alkyl phenol, aromatic amine, etc, the fungicide as an o-cresol, phenol, etc, the extreme pressure agent as dibenzyl disulfide, sulfurized vegetable oil, etc, the antirust agent as 1h-benzotriazole, ditertiary butylated 1h-benzotriazole, etc, the co-surfactant as isopropanol, n-butanol, etc, the coupling agent as lingo sulfonate, petroleum sulfonate, etc, or the alkali component as sodium carbonate, sodium hydrogen, etc. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Case law holds that applicant's specification must be commensurately enabling [regarding the scope of the claims]" *Ex Parte Kung*, 17USPQ2d 1545, 1547 (BD. Pat. App. Inter. 1990). Otherwise **undue experimentation** would be involved in determining how to practice and use applicant's invention. The test for undue experimentation as to whether or not all compounds within the scope of the claims 13-33 can be used as claimed and whether claims 13-33 meet the test is stated in *Ex parte Forman*, 230 USPQ 546, 547 (Bd. App. Inter. 1986) and *In re Wands*, 8 USPQ2d 1400, 1404 (Fed.Cir. 1988). Upon relying this test to claims 13-33, it is believed that undue experimentation **would** be required because:

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(a) There is **no direction or guidance presented** for making a metal working fluid comprising any type of emulsifier, lubricity booster, antioxidant, fungicide, extreme pressure agent, antirust agent, co-surfactant, coupling agent, and alkali metal component.

(b) There is an **absence of working examples** concerning making claims 13-33 comprising any type of emulsifier, lubricity booster, antioxidant, fungicide, extreme pressure agent, antirust agent, co-surfactant, coupling agent, and alkali metal component.

In light of the above factor, it is seen that undue experimentation would be necessary to make and use the invention of claims 13-33.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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8. Claims 1-12 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anantaneni (US 6,630,430) in view of Boffa (US 5,804,537), Tanaka (US 6,245,725 B1), Camenzind (US 7,026,438 B2), Van Dam (US 6,784,142 B2), Matsushita (US 5,741,763), Zoch (US 3,902,868), and Otaki (US 4,765,917).

Anantaneni discloses a lubricating composition for a metal surface, specifically an internal combustion engine (column 1, lines 14-19; claim 39, column 38). The composition is comprised of alkyl benzenes, having 18 to 30 carbon atoms, to enhance detergency (column 1, lines 20-25, 55-58). The alkyl benzenes are present in the lubricating composition from 35 to 82 wt% of the total composition (claim 1, column 32). Anantaneni teaches the method to produce the alkyl benzenes useful in the lubricant composition, which results in a fraction by-product separated from detergent class alkyl benzene (column 3, lines 19-43). Furthermore, Anantaneni discloses the use of additives in the composition including extreme pressure additives, antioxidants, and more (column 21, lines 38-45).

Anantaneni does not specifically disclose the addition of (i) an emulsifier, (ii) a lubricity booster, (iii) an antioxidant, (iv) an antirust agent, (v) a coupling agent, (vi) a fungicide, (vii) an extreme pressure additive, (viii) a co-surfactant, (ix) an alkali component, or (x) the composition suitable for use as general emulsion as admixture with water.

With respect to (i) above, Boffa discloses a lubricating composition for an internal combustion engine comprised of alkylated sodium sulfonates from 5 to 80 wt% (column 1, lines 6-10; column 4, lines 15-21; column 5, lines 18-21). This additive aids in

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producing superior engine deposit performance (column 3, lines 16-21). Although Boffa does not specifically disclose the alkylated sodium sulfonates additive as an emulsifier, given that the property of a compound is inseparable from the compound, it therefore would intrinsically function as one in a lubricating composition (*In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)). Since Anantaneni discloses a lubricating composition for an internal combustion engine and Boffa discloses that sodium sulfonate additives are advantageous in engine deposit performance, it would have been obvious for Anantaneni to also utilize this additive.

With respect to (ii) above, Tanaka discloses that additives are added to engine lubricating oils in order to reduce frictional losses (column 1, lines 30-34). One such additive is castor oil in an amount of 0.05 to 10 wt% (column 18, lines 28-30, 38; column 19, lines 16-19). Although Tanaka does not specifically disclose the castor oil additive as a lubricity booster, given that the property of a compound is inseparable from the compound, it would intrinsically function as one in a lubricating composition (*In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)). Since Anantaneni discloses a lubricating composition for an internal combustion engine and Tanaka discloses that additives including castor oil reduce frictional losses in an engine, it would have been obvious for Anantaneni to also utilize this additive.

With respect to (iii), (iv), and (v) above, Camenzind discloses a lubricating composition, specifically metal working fluid, comprised of additives to further improve performance properties (column 7, lines 60-66). The additives include the antioxidant diphenylamine, calcium petroleum sulphonates, and petroleum sulfonates each in an

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amount from 0.01 to 10.0 wt% (column 8, lines 2-5; column 10, line 10; column 11, lines 29 and 60). Although Camenzind does not specifically disclose the calcium petroleum sulphonates as antirust agents or the petroleum sulfonates as coupling agents, given that the property of a compound is inseparable from the compound, they would intrinsically function as such in a lubricating composition (*In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)). Since Anantaneni discloses a metal working fluid and Camenzind teaches the advantage of using these additives, it would have been obvious for Anantaneni to also utilize these additives.

With respect to (vi) above, Van Dam discloses a lubricating composition for an internal combustion engine comprised of specific additives (column 2, lines 48-59). The additives include a hindered phenol, which overlaps the instantly claimed phenol, from 0 to about 2.0 wt% (column 5, lines 28-31). The phenol additive aids in lowering water deposits in engines, improving dispersion of soot in engines, and controlling wear and valve train wear (column 2, lines 52-59). Although Van Dam does not specifically disclose the phenol additive as a fungicide, given that the property of a compound is inseparable from the compound, it would intrinsically function as such in a lubricating composition (*In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)). Since Anantaneni discloses a lubricating composition for an internal combustion engine and Van dam teaches the advantage of a phenol additive in an internal combustion engine, it would have been obvious for Anantaneni to also utilize this additive.

With respect to (vii) above, Matsushita discloses a metal working lubricant comprised of additives conventionally used in lubricant oils (column 1, lines 13-23;

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column 4, lines 16-22). One of these conventional additives is specifically disclosed as diphenyl disulfide in an amount from 0.01 to 5 wt% (column 4, lines 30, 51-53).

Although Matsushita does not specifically disclose the additive as an extreme pressure agent, given that the property of a compound is inseparable from the compound, it would intrinsically function as such in a lubricating composition (*In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)). Since Anantaneni discloses a metal working fluid comprised of an extreme pressure agent and Matsushita discloses that diphenyl disulfide is a conventional additive in the lubricant art, it would have been obvious for Anantaneni to also utilize this additive.

With respect to (viii) above, Zoch discloses a fuel composition utilized in internal combustion engines (column 1, lines 6-7). The composition is comprised of specific additives that provide increased combustion efficiency, reduced gaseous pollutant emissions, and reduced volatility of the fuel additive (column 1, lines 44-49). One such additive is disclosed as isopropanol from 10 to 20 wt% (column 2, lines 16-25). Since Anantaneni discloses a lubricating composition for an internal combustion engine that can be utilized in fuels (column 31, lines 57-65), and Zoch discloses the advantage of an isopropanol additive to a fuel composition, it would have been obvious for Anantaneni to also utilize this additive.

With respect to (ix) above, Otaki discloses a lubricant composition for use in high temperature applications (column 1, line 66 through column 2, line 3). One extreme pressure additive is specifically disclosed as calcium carbonate, which clearly overlaps the instantly claimed alkali metal component, in an amount from 1 to about 16 wt%

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(column 2, lines 25-29; column 3, lines 56-60). This additive is selected since it can function under extremely high pressure conditions (column 3, lines 60-62). Therefore, since Anantaneni discloses a lubricating composition comprised of extreme pressure agents for an internal combustion engine, a high temperature environment, and Otaki discloses a specific extreme pressure agent for a high temperature environment, it would have been obvious for Anantaneni to also utilize this additive.

With respect to (x) above, given that the combination of the above cited references leads to the claimed composition as explained above, it therefore would have been obvious that the composition taught by the combination of references would intrinsically have been suitable for use as general emulsion in admixture with water.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy T. Lang whose telephone number is 571-272-9057. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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10/9/2007

ATZ


ANH TUAN T. NGUYEN
SUPERVISORY PATENT EXAMINER
10/12/07